NAVAL AIR WEAPONS STATION-CHINA LAKE
ANNUAL DRINKING WATER QUALITY REPORT

1 JULY 2001

The Environmental Project Office (Code 8G0000D) is pleased to provide you with this year's Annual Drinking Water Quality Report. Keeping the residents, employees, contractors, and visitors at NAWS-China Lake informed of our water quality is part of our service. Our goal is to provide to you a safe and dependable supply of drinking water. Last year, the Environmental Protection Agency and California Department of Health Services changed the required format in reporting the results of water quality testing. This reporting change merely eliminates listing those substances **NOT** detected. Remember...all substances previously tested were also analyzed in 2000 but if they were not detected using State and Federal-approved methods, they are not listed in this report. If you need additional copies of this report, please visit the Environmental Project Office, located in the southeast portion of Building 00982 or call Mr. Michael Stoner at 939-3243. If there are other water users at your location (remote facilities, etc.) we recommend you distribute this report to those water users also.

WATER SOURCE

In the Indian Wells Valley (North Range), water provided by the Station distribution system is pumped from six ground water wells located in the Harvey Wellfield (near Inyokern) and Intermediate Wellfield (about 3 miles west of the Main Gate) areas. Ground water levels range from about 220-240 feet below ground surface in our pumping wellfields. The water is pumped into storage facilities also located in the Harvey Wellfield and Intermediate Wellfield plus additional storage facilities near the "B" Mountain, Armitage Airfield, China Lake Propulsion Laboratory, and Skytop facilities. All water pumped from subsurface sources is chlorinated at the wellhead and blended throughout the water distribution system. The water quality provided at the tap is considered excellent quality water with all constituents well within State and Federal Maximum Contaminant Levels (MCLs).

In the Pilot Knob Valley (South Range), water is provided to the facilities by three water wells located near Gunline Road, DSL Facility, and SeaSite #1. Water is produced from subsurface aquifers at a depth of approximately 240 feet below land surface and delivered to adjacent storage tanks. All water is chlorinated at the wellhead and the water quality is considered good quality water with all constituents within the State and Federal Maximum Contaminant Levels.

WATER QUALITY TESTING

Last year, the Environmental Project Office sampled for more than 170 contaminants at the nine production well sites and completed weekly biological testing throughout our distribution system. We are pleased to report that our drinking water meets all Federal and State requirements. As Table 1 shows, of all the tests conducted, only 9 constituents

were detected and none were higher than the State of California allows. In addition, Table 1 shows those contaminants to be less than the Maximum Contaminant Level (MCL) allowed but greater than or equal to the Detection Level for Reporting (DLR). Table 2 shows the microbiological monitoring results for both the North Range and South Range distribution systems. No positive results were detected in either of the systems.

CONTACT FOR QUESTIONS

We want our customers to be informed about their water. If you have any questions about this report or other questions related to the water system at NAWS-China Lake, please call Mr. Michael Stoner at 939-3243.

TABLE OF DETECTED CONTAMINANTS

The following definitions are provided so the customer can better understand the many terms and abbreviations included in Table 1 and Table 2.

Maximum Contaminant Level (MCL):
The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG):
The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Nephelometric Turbidity Unit (NTU):
Nephelometric turbidity unit is the measure of the clarity of water. Turbidity in excess of 5 NTU is barely noticeable to the average person.

Public Health Goal (PHG):
The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard (PDWS):
MCLs for contaminants that affect health along with their monitoring, reporting, and water treatment requirements.

Parts per Million (ppm) or Milligrams per Liter (mg/l):
One part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per Billion (ppb) or Micrograms per Liter (ug/l):
One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per Liter (pCi/L):
Picocuries per liter is a measure of the radioactivity in water.

NO FEDERAL OR STATE VIOLATIONS

As you can see in Table 1 and Table 2, the NAWS-China Lake water system is well within the standards set by all Federal and State regulatory agencies.

HEALTH RISK QUESTIONS

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of the contaminants does not necessarily indicate that the water poses a health risk. More information about the contaminants and their potential health risk can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplant, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about their drinking water from their health-care providers. The U.S. Environmental Protection Agency-Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are also available from the safe Drinking Water Hotline (1-800-426-4791).

EDUCATIONAL INFORMATION

The sources of drinking water (both tap and bottled water) in the State of California include rivers, lakes, streams, ponds, reservoirs, springs, wastewater plants, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before it is treated include the following:

Microbial Contaminants:	Viruses and bacteria, which may come from sewage treatment.
Inorganic Contaminants:	Salts and metals, that can be naturally-occurring or result from urban storm water.
Pesticides and Herbicides:	May come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
Organic Chemicals:	Including synthetic and volatile organic chemicals, which are products of industrial processes and petroleum production, and can, also come from gas stations, urban storm water runoff, agricultural application, and septic systems.
Radioactive Contaminants:	Can be naturally-occurring or be the result of oil and gas production and mining activities.

CONCLUSIONS

We meet all Federal and State drinking water standards. We also test our water at recommended intervals and report to the California Department of Health Services. In our efforts to supply good water quality, it is necessary to make continual improvements in the water distribution system. During the past few years, we have replaced three water production wells, installed three treatment facilities (chlorinators), upgraded water pumps and piping, re-roofed the "B" Mountain reservoir, and performed other upgrades as necessary.

Also, many of our customers have voiced a concern about the gasoline additive "MTBE" (Methyl tert-Butyl Ether) which was featured on "60 Minutes" and has been prevalent in the news media as a ground water contaminant. The Environmental Project Office shares this concern and has sampled all production wells in the North and South Ranges for this contaminant. We are pleased to report that no MTBE has been found in ground water wells that provide our drinking water.

TABLE 1

NAWS-CHINA LAKE
TEST RESULTS

Radiological Analyses

Constituent	Violation	Range	Unit	MCL or MCLG	PHG	Source	Health Effects Language
1. Gross Alpha	N	0.79-10.69	pCi/l	15	N/A	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of cancer.

Inorganic Constituents

Constituent	Violation	Range	Unit	MCL or MCLG	PHG	Source	Health Effects Language
1. Arsenic	N	2.3-31	ppb	50	NA	Erosion of natural deposits runoff from orchards, glass and electronic production waste	Some people who drink water containing arsenic in excess of the MCL for many years may experience skin damage or circulatory system problems, and may have an increased risk of cancer.
2. Copper	N	<10-94	ppb	NA	NA	Erosion of natural sediments, internal corrosion of household plumbing	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short time may experience gastrointestinal distress.
3. Fluoride	N	0.38-0.82	ppm	4	1	Erosion of natural deposits, discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years may get bone disease. Children who drink water containing fluoride in excess of the MCL may get mottled teeth.
4. Iron	N	<50-340	ppm	340	NA	Leaching and natural erosion	NA
5. Manganese	N	<10-100	ppb	50+	NA	Leaching from natural deposits	NA

TABLE 1
(continued)
NAWS-CHINA LAKE
TEST RESULTS

Inorganic Constituents (continued)

Constituent	Violation	Range	Unit	MCL	PHG	Source	Health Effects Language
6. Nitrate	N	0.44-25	ppm	45	45	Naturally-occurring in groundwater	Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. Pregnant women who drink water containing nitrate in excess of the MCL may experience anemia.
7. Selenium	N	<2-3.6	ppb	50	NA	Naturally-occurring in groundwater	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years may experience hair or fingernail losses, numbness in fingers and toes, or circulatory system problems.
8. Sulfate	N	15-119	ppm	NA	NA	Naturally-occurring in ground water	NA
9. Zinc	N	<50-1600	ppb	5000	NA	Naturally-occurring in groundwater	NA

TABLE 2

NAWS-CHINA LAKE
MICROBIOLOGICAL TEST RESULTS

	MCL	PHG	North Range Sites	South Range Sites	Typical Source(s)
Total Coliform Bacteria	2 or 5%	0	ND (absent)	ND (absent)	Natural in Environment

Coliform bacteria monitoring in the China Lake water distribution system is required monthly at 16 locations, and none were detected.